Company profile:

Founded in 1995, Grandway is specializing in the field of communication instruments and now we are one of the biggest communication test instruments suppliers and the exclusive distributor & maintenance center of FUJIKURA Ltd in China mainland. At present we offer advanced products and total solutions in areas of optical network test&measurement.These products are marketed mainly to telecom and network carriers around the world. These customers use Grandway ingenious products for installation and maintenance. Our objective is to be a leading worldwide designer, manufacturer and supplier of fiberoptics handheld test instruments.

With strong R&D capability, we keep on innovating and pursuing excellence. By now we have a products line which includes:

(1) Optical Laser Source
(2) Optical Power Meter
(3) Optical Fiber Identifier
(4) Optical Fiber Talkset
(5) Fiber Fault Locator
(6) Variable Optical Attenuator
(7) Optical Multimeter
(8) FTTx Equipment(Patchcord, PLC Splitter ODF)
(9) E1 Error Rate Tester

With excellent performance versus price ratio, Grandway has achieved great success in China, then extended business to the global customers in more than 40 countries.

Grandway is a highly flexible and competitive market player. We will continuously offer the state-of-the-art& cost effective products and solutions to the global customers.

We always think "double win" Partnership is the best strategy in business.

We have a creative R&D team consisits of more than 40 professional staff to develop best products according the market needs.

We concentrate on the fiber optical testing and telecom testing.

SYSTEM CERTIFICATION ISO 9001:2000 SGS
UKAS QUALITY MANAGEMENT 005

CE

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General Description:

The FHP1 series of Power Meter are designed for use with an Optical Source for performing optical loss measurements on fiber optic cables, this model is designed for the customers who have limited budget. It can meet the the basic demand in field test. With the smaller size and weight, it is easier to take in field test.

Specifications:

	FHP1A02	FHP1B02
Calibrated Wavelength (nm)	850/1300/1310 /1490/1550/1625	
Detector Type	InGaAs	
Connector	Interchangable FC,SC,ST	
Accuracy①	± 0.35dB±1nW	± 0.35dB±10nW
Resolution	0.01dB	
Linearity	±5%	
Auto Power Off	Yes	
Back Light	Yes	
Reference Value	Yes	
Tone Detection (Hz)	270,1k,2k(≥-40dBm)	270,1k,2k(≥-20dBm)
Measuring Range(dBm)	-60 to +10 @1550nm	-40 to +26 @1550nm
Value Display	dBm/dB/mw	
Operating Temperature	-10 to +50℃	
Storage Temperature	-20 to +70℃	
Power Supply	Li-ion Battery; 5V AC/DC Adaptor	
Dimension (mm)	115L*62W*30H	
Net Weight	140g	

Note: ① Valid at 1550nm, CW,23±3℃, Relative Humidity ≤70%, with an FC connector.

Ordering Information:

Standard Accessories:
FC/PC,SC/PC,ST/PC interchangeable connector, Manual, Carrying Bag, AC/DC adapter, Test Report.

Optional Accessories:

FC/PC male -LC/PC female Adapter		

NOTE: PLEASE CONTACT GRANDWAY FOR AVAILABILITY AND LEAD TIME.

General Description:

The FHP2 series of Power Meter are the advanced version of LPM series. It is more functional and intelligent than LPM. In the situation of laboratory, LANs, WANs and CATV as well as long distance optical network, the Optical Power Meters, together with Grandway's Stabilized Laser Sources, can be used to identify optical fiber, measure optical attenuation, verify continuity and evaluate fiber link transmission quality.

Auto-Wavelength Recognition:
The FHS2D02 unit can transmit with a wavelength-identification digital encrypted protocol,enabling the FHP2 Power Meter to automatically switch to the proper calibration wavelength. This feature reduces the need for communication between the two technicians and decreases the possibility of making mistakes.

Referencing function:
Signal encrypting can also give the receiving end information on the power to be used as reference, helping ensure efficient referencing, even when the two units are far apart.

Computer supported:
Memory capacity of 1000 data items; enables data transfer to a PC via USB connection. With the software, the date sheet can be saved as excel or txt, and print out directly.

Testing Range
Maximum testing range up to 150km(when using Grandway FHS2D02 laser source with Grandway FHP2A02/FHP2A04 power meter).

Features:

- Referencing function
- Memory capacity of 1000 data items, enables data transfer to a
- PC via USB connection
  LCD backlight for easy operation in darker environments
- More connectors are optional and interchangeable by the user
- Two powering systems: Internal rechargeable batteries or AC adaptor
- Wide measurement range
- High accuracy and stability
- Auto-off function: saves the power and low power consumption allows extended operation in the field
- Three-year warranty and recommended calibration interval

Specifications:

	FHP2A02	FHP2A04	FHP2B02	FHP2B04
Calibrated Wavelength (nm)	850/1300/1310 /1490/1550/1625			
Detector Type	InGaAs			
Accuracy ①	± 0.2dB±1nW		± 0.2dB±10nW	
Resolution	0.01dB@-60 to +10dBm; 0.1dB@-70 to -60dBm		0.01dB@-40 to +26dBm; 0.1dB@-50 to -40dBm	
Linearity	±5%			
Auto Power Off	Yes			
Back Light	Yes			
Reference Value	Yes			
Measuring Range(dBm)	-70 to +10 @1550nm		-50 to +26 @1550nm	
USB Interface	N/A	Yes	N/A	Yes
Data Storage	N/A	Yes	N/A	Yes
Wavelength Recognize	N/A	Yes(≥-40dBm)	N/A	Yes(≥-20dBm)
Tone Detection (Hz)	270,1k,2k(≥-40dBm)		270,1k,2k(≥-20dBm)	
Operating Temperature	-10 to +50 ℃			
Storage Temperature	-20 to +70 ℃			
Power Supply	2pcs * Ni-MH AA(2500mAh); 6V AC/DC adaptor			
Dimension (mm)	160L*76W*45H			
Net Weight	270g			

Note: ① Valid at 1550nm, CW,23±3℃, Relative Humidity ≤70%, with an FC connector.

Ordering Information:

Standard Accessories:
FC/PC,SC/PC,ST/PC interchangeable connector, Manual, Carrying Bag, Software (CD), USB cable, AC/DC adapter, Test Report.

Optional Accessories:

Description	Ordering Number	Description	Ordering Number
FC/PC male -LC/PC female Adapter	FH-LC	1.25mm Universal Adapter	FHP-U1.25
Silicon Boot	FH-RB	Carrying Box	FH-PS

NOTE: PLEASE CONTACT GRANDWAY FOR AVAILABILITY AND LEAD TIME.

General Description:

The industry's advanced PON-specific power meter,the FHP3P01 is the flagship of Grandway line of test instruments specifically intended for FTTH and FTTP systems.The FHP3P01 is the ideal tool for FTTH/FTTP service activation and troubleshooting.

Service Activation Testing:

Optimizing network reliability requires that all PON signals be measured all the way through service activation to ensure they meet established standards.The FHP3P01 offers the features to address this need:

- Pass-through connection for ONT signal measurement and simultaneous measurement of all PON signals
- Filtered detectors for indivisual measurement of each wavelength
- Upstream burst detection at 1310 nm

Troubleshooting Testing:

Throughout the maintenance phase,various transmission problems-fiber cuts,damaged/dirty connectors,macrobendings,optical transmitter failure,etc.-may ultimately cause signal loss or degradation.Benefit from the FHP3P01 troubleshooting functionalities:

- Quick,on-site test and measurement of PON signals,anywhere on the network
- Fault identification and isolation

Features:

- Hand-held and battery operated
- TFT LCD Display with high resolution
- Filtered measurements with distinct power display
- Simultaneous measurement and display power lever of 1310,1490,1550 nm WL
- Pass/Fail function available.Up to 10 user defined threshold
- Ability to upgrade software through USB interface
- 1000 Sets Data Storage
- Software to generate Testing Report

Specifications:

Measurement Range (Continuous Datastream)	1310nm	1490nm	1550nm
	-40dBm~+10dBm	-50dBm~+15dBm	-50dBm~+20dBm
Burst measurement range (1310nm bursted signal)	-32dBm~+10dBm		
Spectral Passband	1310nm	1490nm	1550nm
	1260nm~1360nm	1480nm~1550nm	1539nm~1565nm
Insertion Loss	1.5dB		
Accuracy ①	±0.5dB		
Linearity	±0.2dB		
Data Storage	1000Sets		
Display	2.8 inch TFT LCD		
Refresh Rate of Display	2.5Hz		
Threshold	10 sets(configured via PC-based software)		
Auto Power-off	Yes		
Number of Ports	2(1 for ONU,1 for OLT&.Video)		
Operating Temperature	-10 to +50°C		
Relative Humidity	0%~95%,non-condensing		
Power Supply	1.2V*4pcs Ni-MH AA;12V AC/DC Adapter		
Battery life	>20 hours		
Dimension	190mm*105mm*55mm(L*W*H)		
Net Weight	700g		

NOTE:① Valid at 1550nm,CW,23±3°C,Relative Humidity≤70%,with an FC connector.

Ordering Information:

Standard Accessories:

FC/PC,SC/PC,ST/PC interchangeable connectors, Manual, Carrying Bag, Software (CD), USB cable, AC/DC adapter, Test Report, Silicon Boot.

Optional Accessories:

Description	Ordering Number
FC/PC male -LC/PC female Adapter	FH-LC

NOTE: PLEASE CONTACT GRANDWAY FOR AVAILABILITY AND LEAD TIME.

General Description:

The FHS1D series laser source offer excellent stability and portability for accurate fiber optic testing. Single output port provides stable laser power at dual-wavelength. The compact unit operates in either continuous wave (CW) mode or modulated mode. A low battery indicator reminds the user of replacing the battery.

Specifications:

	FHS1D02	FHS1D03
Output wavelength (nm)	1310 & 1550	850 & 1300
Emitter Type	LD	
Connector	FC/PC	
Output Stability ①	Short Term(15minutes):<0.1dB Long Term(5Hours or above):<0.2dB	
Central Wavelength	±20nm	
Spectral Width	3nm	
Output Frequency (Hz)	270,1K,2K	
Output Power	-5dBm±0.5dB	
Auto Power-off	Yes	
Back-light	Yes	
Operating Temperature	-10 to +50℃	
Storage Temperature	-20 to +70℃	
Power supply	Li-ion Battery;5V AC/DC Adaptor	
Dimension (mm)	115L*65W*30H	
Net Weight	140g	

Note: ①Valid at CW, 23±3˚C ,Relative humidity≤70%, with FC/PC connector.

Ordering Information:

Standard Accessories:
FC/PC, Manual, Carrying Bag, and Battery, AC/DC charger, Test report.

Optional Accessories:

FC/PC male -LC/PC female Adapter		

NOTE: PLEASE CONTACT GRANDWAY FOR AVAILABILITY AND LEAD TIME.

General Description:

FHS2D series Laser source are advanced version of DLS series Laser Source, with better features and more functions.

Auto-Wavelength Recognition

The FHS2D series LS transmits with a wavelength-identification digital encrypted protocol, enabling the FHP2 Power Meter to automatically use the proper calibration wavelength. This feature reduces the need for communication between the two technicians and decreases the possibility of making mistakes.

The FHS2D series LS offer excellent stability and portability for accurate fiber optic testing. Single output port provides stable laser power at dual wavelengths. The compact unit operates in either continuous wave (CW) mode or modulated mode. A low battery indicator reminds the user of recharging the battery.

Features:

- Easy-to-use, straight forward operation
- Eye-catching handheld appearance
- LCD backlight for easy operation in dark environments
- Adjustable output
- Rechargeable battery inside
- 850 & 1300 availale for multimode testing
- Interchangeable connectors
- Three-year warranty and recommended calibration interval.

Specifications:

	FHS2D02	FHS2D02F	FHS2D03	FHS2D03F
Output wavelength (nm)	1310&1550		850 & 1300	
Emitter Type	LD			
Output Stability ①	Short Term (15 min.): < ±0.05dB @1310,1550nm; ±0.1dB@850 & 1300 Long Term (5 Hours): < ±0.1dB @1310,1550nm;±0.2dB@850 & 1300			
Central Wavelength	1310±20nm & 1550±20nm		850±10nm & 1300±20nm	
Spectral Width	3nm			
Output Frequency (Hz)	270,1K,2K			
Output Power	-5 dBm ±0.5dB			
Adjustable Range	±3dB, 0.1dB/step	N/A	±3dB, 0.1dB/step	N/A
Auto Power-off	Yes			
Back-light	Yes			
Operating Temperature	-10 to +50 ℃			
Storage Temperature	-20 to+70 ℃			
Power supply	2pcs * Ni-MH AA(2500mAh)			
Dimension (mm)	160L*76W*45H			
Net Weight	270g			

① Note: Valid at 1550nm, CW,23±3℃, Relative Humidity ≤70%, with an FC connector.

Ordering Information:

Standard Accessories:

FC/PC, ST/PC,SC/PC interchangeable connectors , Manual, Carrying Bag, and Battery, worldwide compatible AC/DC charger, Test report.

Optional Accessories:

Description	Ordering Number	Description	Ordering Number
FC/PC male -LC/PC female Adapter	FH-LC	Carrying Box	FH-PS
		Silicon Boot	FH-RP

NOTE: PLEASE CONTACT GRANDWAY FOR AVAILABILITY AND LEAD TIME.

General Description:

FHS2T series Laser source are advanced version of FHS2D series Laser Source, with one more wavelength for FTTX PON testing.

Auto-Wavelength Recognition

The FHS2T can transmit with a wavelength-identification digital encrypted protocol, enabling the FHP2 power meter to automatically switch to the proper calibration wavelength. This feature reduces the need for communication between the two technicians and decreases the possibility of making mistakes.

The FHS2T series offer excellent stability and portability for accurate fiber optic testing. Single output port provides stable laser power at threel wavelengths. The compact unit operates in either continuous wave (CW) mode or modulated mode. A low battery indicator reminds the user of recharging the battery.

Testing Range

Maximum testing range up to 150km(when using Grandway FHS2T laser source with Grandway FHP2A02/FHP2A04 power meter).

Features:

- Easy-to-use, straight forward operation
- Eye-catching handheld appearance
- LCD backlight for easy operation in dark environments
- ±3dB Adjustable output.
- Rechargeable battery inside 1310 & 1490&1500 available for PON testing
- Three-year warranty and recommended calibration interval.
- FC/PC, ST/PC,SC/PC interchangeable connectors

Specifications:

	FHS2T01	FHS2T01F
Output wavelength (nm)	1310 &1490&1550	
Emitter Type	LD	
Output Stability ①	Short Term (15 min.): < ±0.05dB @1310,1550nm; ±0.1dB@1490 Long Term (5 Hours): < ±0.1dB @1310,1550nm;±0.2dB@1490	
Central Wavelength	±20nm	
Spectral Width	3nm	
Output Frequency (Hz)	270,1K,2K	
Output Power	-5 dBm ±0.5dB	
Adjustable Range	±3dB, 0.1dB/step	N/A
Auto Power-off	Yes	
Back-light	Yes	
Operating Temperature	-10 to +50 ℃	
Storage Temperature	-20 to+70 ℃	
Power supply	2pcs * Ni-MH AA(2500mAh)	
Dimension (mm)	160L*76W*45H	
Net Weight	270g	

① Note: Valid at CW,23±3℃, Relative Humidity ≤70%, with an FC connector.

Ordering Information:

Standard Accessories:

FC/PC, ST/PC,SC/PC interchangeable connectors , Manual, Carrying Bag, and Battery, AC/DC charger, Test report.

Optional Accessories:

Description	Ordering Number	Description	Ordering Number
FC/PC male -LC/PC female Adapter	FH-LC	Carrying Box	FH-PS
		Silicon Boot	FH-RB

NOTE: PLEASE CONTACT GRANDWAY FOR AVAILABILITY AND LEAD TIME.

General Description:

FHS2Q series Laser source are advanced version of FHS2D series Laser Source, with two more calibrated wavelengths .

Auto-Wavelength Recognition
The FHS2Q can transmit with a wavelength-identification digital encrypted protocol, enabling the FHP2 power meter to automatically use the proper calibration wavelength. This feature reduces the need for communication between the two technicians and decreases the possibility of making mistakes.
The FHS2Q series offer excellent stability and portability for accurate fiber optic testing. Two output ports provide stable laser power at four wavelengths. The compact unit operates in either continuous wave (CW) mode or modulated mode. A low battery indicator reminds the user of recharging the battery.

Features:

- Easy-to-use, straight forward operation
- Eye-catching handheld appearance
- LCD back-light for easy operation in dark environments
- Rechargeable battery inside
- Four wavelengths available for multi-purpuse testing
- Three-year warranty and recommended calibration interval.

Specifications:

	FHS2Q01F	FHS2Q02F
Output wavelength (nm)	850/1300/1310/1550	1310/1490/1550/1625
Emitter Type	LD	
Output Stability	Short Term (15 min.): < ±0.05dB @1310,1550nm; ±0.1dB@850 & 1300 Long Term (8 Hours): < ±0.1dB @1310,1550nm; ±0.2dB@850 & 1300	Short Term(15minutes): <0.05dB@1310,1550nm <0.1dB@1490,1625nm Long Term(5Hours or above): <0.1dB@1310,1550nm <0.2dB@1490,1625nm
Central Wavelength	±20nm	
Spectral Width	3nm	
Output Frequency (Hz)	270,1K,2K	
Output Power	-5 dBm±0.5dB	
Auto Power-off	Yes	
Back-light	Yes	
Operating Temperature	-10 to +50	
Storage Temperature	-20 to+70	
Power supply	2pcs * Ni-MH AA(2500mAh)	
Dimension (mm)	160L*76W*45H	
Net Weight	270g	

① Note: Valid at 1550nm, CW,23±3℃, Relative Humidity ≤70%, with an FC connector.

Ordering Information:

Standard Accessories:

FC/PC, ST/PC,SC/PC interchangeable connectors , Manual, Carrying Bag, and Battery, AC/DC Adapter/Charger, Test report.

Optional Accessories:

Description	Ordering Number	Description	Ordering Number
FC/PC male -LC/PC female Adapter	FH-LC	Carrying Box	FH-PS
		Silicon Boot	FH-RB

NOTE: PLEASE CONTACT GRANDWAY FOR AVAILABILITY AND LEAD TIME.

FHV1A Series

General Description:

The FHV1A is a compact but powerful visual fault locator, with an output power up to 8dBm, FHV1A could be used to locate sharp bends &. breaks in jacked or bare fiber up to 10Km. It could also be used to identify the connectors in patch panel and identify the poor mated fibers during splicing operation.

Features:

- 3 adjustable output power : 0, 3, 8 dBm
- Back-light LCD display
- Auto-power off

Specifications:

Item / Model No.	FHV1A	FHV1B
Wavelength	650 ±10nm	
Emitter Type	LD	
Connector Type	FC/PC (interchangeable SC,ST)	
Modulated Frequency	2 Hz	
Output Power	0, 3, 8 dBm (switchable)	-3,0dBm(switchable)
Power Supply	AC/DC adaptor &. Li-ion Battery	
Battery Life	20 hrs. (continuous operation)	
Operating Temp.	-10°C ~ +50°C	
Storage Temp.	-20°C ~ +70°C	
Humidity	0 ~ 95% (non-condensing)	
Weight	140 g	
Dimension	115*65*30 mm	

Ordering Information:

Optional Accessories:

FC/PC, SC/PC, ST/PC interchangeable connectors. Rechargeable Li-ion battery, AC adapter, carrying bag, test report, User's manual.

Optional adapters:

FC/PC male -LC/PC female Adapter		

NOTE: PLEASE CONTACT GRANDWAY FOR AVAILABILITY AND LEAD TIME.

VLS-5 Series

Specifications:

Model	VLS-5A	VLS-5B
Emitter Type	LD	
Wavelength	650 ±10nm	
Output Power ①	>7 mW	>1mW
Modulated Frequency	2 Hz	
Fiber Type	SM&MM fiber	
Power Supply	1.5V AAA Battery * 3 pcs	
Operating Time	>10 hours	>20 hours
Dimension (mm)	27(D) * 150 (L)	
Weight	150 g (including batteries)	

Note: ① Valid at 1550nm, CW,23±3℃, Relative Humidity ≤70%, with an FC connector.

Standard Accessories:

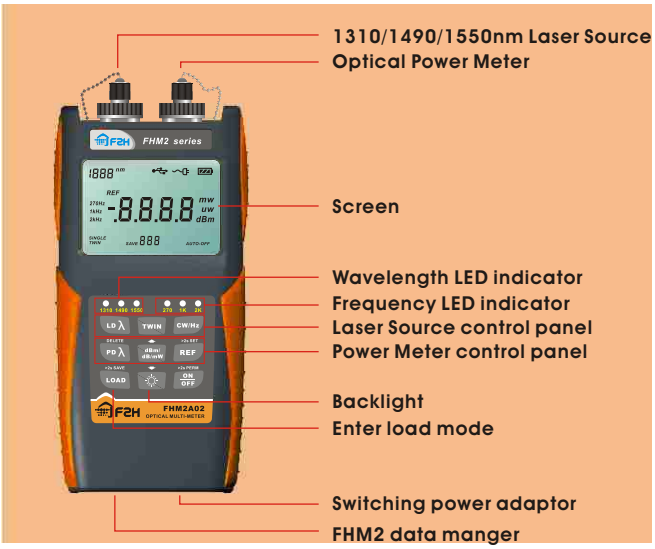
FC/PC connector (other types optional), Carrying Case, Manual, and Battery

General Description:

The FHM2 series multimeter combines a power meter with a 3- wavelength laser source, for optical fiber network installation and maintenance. With the large capacity of data storage, it's very convenient for field testing and generating the test results to PC through USB interface for further processing.

Features:

- Auto wavelength recognition
- Data storage up to 999 sets
- USB interface and PC simulation software available



Specifications:

		FHM2A02	FHM2B02
Power Meter	Calibration wavelength(nm)	850/1300/1310/1490/1550/1625	
	Connector	Interchangeable FC/SC/ST for PC/APC	
	Data storage(pieces)	999	
	Ref. Value	Yes	
	Display Units	dB / dBm / mW /uW	
	Display precision(dB)	0.01	
	Accuracy	± 0.2dB±1nW	± 0.2dB±10nW
	Wavelength Recognition	1310/1490/1550(input power> -40dBm)	1310/1490/1550(input power> -20dBm)
	Tone Detection	270 Hz / 1KHz / 2KHz(input power> -40dBm)	270 Hz / 1KHz / 2KHz(input power> -20dBm)
	Measuring Range(dBm)	-70 to +10	-50 to +26
Laser Source	Output wavelength (nm)	1310/1490/1550	
	Connector	Interchangeable FC/SC/ST for PC	
	Modulation frequencies(Hz)	270/1K/2K	
	Output Power ①	-5dBm±0.5dB	
	Stability Long-term(8h) ①	±0.1dB@1310/1550nm; ±0.2dB@1490nm	
	Stability Short-term (15min) ①	±0.05dB@1310/1550nm ; ±0.1dB@1490nm	
	Wavelength Recognizing Code	Yes	
General Specification	Auto Power off	Yes	
	Power Supply	2pcs *NiHM 1.2V, 2500mAh; AC/DC Adaptor	
	PC interface	USB	
	Battery Life	> 100 Hours (laser off)	
	Storage Temperature	-20°C~+70°C	
	Operating Temperature	-10°C~+50°C	
	Relative Humidity	<90% (Non-condensing)	
	Dimension (mm)	168L×76W×43H	
	Weight (Gram)	310	

Note: ①Valid at 1550nm, CW, 23±3˚C ,Relative humidity≤70%, with FC/PC connector.

Ordering Information:

Standard Accessories:
User Manual, Rechargeable Batteries, Carrying Soft Bag, Interchangeable FC/SC/ST/LC connectors, AC /DC Adapter/Charger, PC software, USB Connecting Cable, Test Report

Optional Accessories:
Carrying box, Silicon Boot.

General Description:

The FHM1 series multimeter combines a power meter with a 3- wavelength laser source, for optical fiber network installation and maintenance. With the large capacity of data storage, it's very convenient for field testing and generating the test results to PC through USB interface for further processing.

Features:

- Auto wavelength recognition
- Data storage up to 999 sets
- USB interface and PC simulation software available

Specifications:

		FHM2A01	FHM2B01
Power Meter	Calibration wavelength(nm)	850/1300/1310/1490/1550/1625	
	Connector	Interchangeable FC/SC/ST/LC	
	Data storage(pieces)	999	
	Ref. Value	Yes	
	Display Units	dB / dBm / mW /uW	
	Display precision(dB)	0.01	
	Accuracy	± 0.2dB±1nW	± 0.2dB±10nW
	Wavelength Recognition	1310/1490/1550(input power> -40dBm)	1310/1490/1550(input power> -20dBm)
	Tone Detection	270 Hz / 1KHz / 2KHz(input power> -40dBm)	270 Hz / 1KHz / 2KHz(input power> -20dBm)
	Measuring Range(dBm)	-70 to +10	-50 to +26
Laser Source	Output wavelength (nm)	1310/1550	
	Connector	Interchangeable FC/SC/ST	
	Modulation frequencies(Hz)	270/1K/2K	
	Output Power ①	-5dBm±0.5dB	
	Stability Long-term(8h) ①	±0.1dB@1310/1550nm; ±0.2dB@1490nm	
	Stability Short-term (15min) ①	±0.05dB@1310/1550nm ; ±0.1dB@1490nm	
	Wavelength Recognizing Code	Yes	
General Specification	Auto Power off	Yes	
	Power Supply	2pcs *NiHM 1.2V, 2500mAh; AC/DC Adaptor	
	PC interface	USB	
	Battery Life	> 100 Hours (laser off)	
	Storage Temperature	-20°C~+70°C	
	Operating Temperature	-10°C~+50°C	
	Relative Humidity	<90% (Non-condensing)	
	Dimension (mm)	168L×76W×43H	
	Weight (Gram)	310	

Note: ①Valid at 1550nm, CW, 23±3°C ,Relative humidity≤70%, with FC/PC connector.

Ordering Information:

Standard Accessories:
User Manual, Rechargeable Batteries, Carrying Bag, Interchangeable FC/SC/ST connectors, AC /DC Adapter/Charger, PC software, USB Connecting Cable, Test Report

Optional Accessories:
Carrying box, Silicon Boot.

Discripiton:

The F2H optical insertion loss/return loss meter is an integrated tester for optic fiber network, and cable manufacturer to verify the quality of fiber leads, with the features of handheld, intelligent and multi-functional.
The meter is designed to be a combination of optical insertion loss tester, optical power meter, laser source and return loss tester. It can not only measure return loss and proceeding the measurement of absolute and relative power value, but also work as a self-testing system to measure optical loss of optic fiber cable and passive device. FRL is an ideal tool to verify the polish quality of fiber, measure optical return loss in field installation, proceed routine inspection. It is no doubt to be an excellent instrument for Optic Telecom and CATV network, as well lab test and research work.

Features:

- High-precision ORL testing at 2 wavelengths (SM 1310/1550nm)
- Three instruments in one: return loss meter/power meter/insertion loss meter
- Internal data storage up to 500 records
- Both batteries or AC power supply
- Interchangeable connectors with FC/SC/ST

Specifications :

Return loss meter	
Working wavelength	1310nm,1550nm
Measurement range	0~65dB
Calibrated wavelengths	310nm&1550nm
Measurement accuracy	0~55dB:0.4dB; 55~65dB:1dB
stability	0.05dB/15min
Connector type	FC/APC,SC/APC, ST/APC
Resolution	0.1dB
Data memory	00 measurement results
Power Output	-2dBm
Power meter	
Calibrated wavelengths	850nm,1300nm,1310nm,1490nm,1550nm,625nm
Measurement range	-70dBm~7dBm
Measurement accuracy	-70dBm~-60dBm:1dB; -60dBm~7dBm:±0.2dB±1nw
Modulation detection	270HZ,1KHZ,2KHZ
Auto-lambda detection	yes
resolution	70~-60dBm:0.1dB; -60~+8dBm:0.01dB
Data storage	500 measurement results
Connector type	FC/SC/ST

Insert loss meter	
Calibrated wavelengths	310nm,1550nm
Measurement range	0~70dB
Measurement accuracy	0~60dB:0.2dB; 60~70dB:1dB
Data memory	500 measurement results
Connector type	FC/SC/ST
Other specifications	
adapter	INPUT:AC100~240V 50/60HZ OUTPUT:DC6V/1A
USB connector	yes
battery	2*AA NI-MH 1.2V 2500mAh rechargeable
Working temperature	-5~+50°C
Storage temperature	-20~+70°C
Working humidity	0~90% no condensing
Support remote upgrade	

Standard Accessories:

User Manual, Rechargeable Batteries, Carrying Bag, Interchangeable FC/SC/ST connectors, AC /DC Adapter/Charger, PC software CD, USB Connecting Cable, Test Report, FC/APC-FC/APC Patchcord, FC/APC-FC/PC Patchcord, Cotton Bud.

Optional Accessories:

Carrying box, Silicon Boot, FC/PC male -LC/PC female Adapter.

General Description:

The FHA digital variable optical attenuator is a compact, portable instrument widely used in fiber link certification and routine maintenance as well as in lab environment.

Features:

- Low insertion loss, wide attenuation range
- Two attenuation steps available: 1dB, 0.05dB.
- Reference function
- Presetting values to save frequently used values

Application:

- Maintenance for Telecom System
- Maintenance for CATV System
- Fiber Optic Transmission System&Test Lab
- Other Fiber Optic Works

Specifications:

Model	FHA2S01	FHA2S02
Attenuation Range①	0~80dB	0~60dB
Fiber Type	SMF 9/125μm	
Calibrated Wavelengths	1310nm/1550nm	
Linearity①	≤0.3dB	
Accuracy①	0.2dB @0~30dB 1,0dB @ 30~60dB 2.0dB@60~80 dB	0.2dB @0~20dB 0.5dB @ 20~50dB 1.0dB@50~60 dB
Insert ion Loss	<3dB	
Return Loss	>50dB(PC)	
Max Input Power	+24dBm	
Power Supply	1.2 V Ni-MH Battery * 2pcs	
Connector	Interchangeable FC/PC, SC/PC, ST/PC connectors. (FC/APC, SC/APC are available at time of ordering)	
Operating temperature	-10˚C to 50˚C	
Storage temperature	-20˚C to 60˚C	
Relative humidity	0%~95% (non-condensing)	
Dimension	160L*76W*45H(nm)	
Weight	360g(Battery included)	

Note: ① Valid at 1550nm, CW, 23±3˚C ,Relative humidity≤70%, with FC/PC connector.

Ordering Information:

Standard Accessories:

FC/PC,SC/PC,ST/PC interchangeable connectors, Carrying Case, User Manual, Rechargeable Battery, AC/DC Adapter/Charger, Test Report

Optional Accessories:

FC/PC male -LC/PC female Adapter, Silicon Boot, Carrying Box.

General Description:

Fiber optic attenuator is a device used to reduce the power level of an optical signal. Our portable variable attenuator OVA-02 performs just as well in a laboratory environment as it does in the field.

Grandway Variable Fiber Attenuator is unique in the market, due to its special technique which make our instruments not need powring. It can complement the basic funtions of Multiple Applications at a low cost.

Features:

- Operating by the single rotary knob, easy and fast
- Reliable bi-directional attenuation
- Double scale indication
- Large attenuation range
- No powering system is needed

Specifications:

Operating wavelength	1310nm, 1550nm
Attenuating mode	Bi-directional and continuous
Adapter type	FC/PC
Insert Loss	<3dB
Signal type	CW
Attenuating range①	60dB
Operating temperature	-10~+50℃
Storage temperature	-20~+70℃
Dimensions	150L*80W*28H (mm)

Note: ① Valid at 1550nm, CW,23±3℃, Relative Humidity ≤70%, with an FC connector.

Ordering Information:

Standard Accessories:
FC/PC connectors, User Manual, Carrying Bag, Test Report.

General Description:

The FHR3A01 is a high performance optical fiber troubleshooter for locating fiber break and imperfections. It detects the break location in the optical fiber and displays the result on the LCD. This portable, easy to use fiber ranger is an ideal instrument for fiber cable construction and maintenance.

Features:

- Low Dead Zone of only 3 meters;
- Back-light LCD display;
- Rechargeable batteries support up to 15000 times measurements;
- Data transmission&.storage through mini USB.

Specifications:

Item / Model No.		FHR3A01
Fiber Type		9/125 μm Single Mode
Wavelength		1550 ± 20nm
Emitter Type		LD
Connector Type		FC/PC (interchangeable SC,ST)
Pulse Width		10ns/20ns/40ns/80ns/160ns/320ns/640ns/1280ns/ 2560ns/5120ns/12400ns/24800ns (auto-switch)
Max. Output Power		100 mW
Max. Measurement Range	Reflection	130 Km
	Non-Reflection	40 Km
Distance Accuracy		+/- (0.8 m + 0.1% x Distance)
Data Storage		999 measurements
Event Dead Zone	Reflection	3 m
	Non-Reflection	20m
Power Supply		AC/DC adapter & Rechargeable Batteries* 4
Battery Life		15,000 times measurement
Operating Temp.		-10 ~ +50°C
Storage Temp.		-20 ~ +60°C
Humidity		0 ~ 85% (non-condensing)
Communication Port		Mini USB
Weight		300 g
Dimension		190*105*55 mm

Standard Accessories:

Rechargeable NiHM AA battery(4 pcs), AC adapter, PC software&. USB transmission cable, Carrying bag, Warranty card,Test report, User's manual. Silicon Boot.

Features:

- Two pairs of OTS-4 supports tri-party communication via clip-on coupler device
- Hands-free(HF) speaker provides users with convenient operation
- Maximum dynamic range 50dB@1550nm for long distance communication

Main Features:

- Energy-saving design, long-time operation
- Can be used as a steady laser source
- Articulate voice, low background noise
- Judgmatical calling function
- 32 steps volume control
- Low-power alarm
- Maximum dynamic range 50dB for long distance communication

Specifications:

	OTS-4
Wavelength	A:1310nm, B:1550nm (unit A works at 1310nm, unit B works at 1550nm)
Telecommunication system	Full duplex communication
Fiber Type	SM & MM (the dynamic range will shrink 20dB for MM fiber)
Spectral Width ①	<15nm
Adaptor type	FC/PC
Dynamic Range ①	50dB
Output Power	-3dBm
Power Supply	Rechargeable Ni-MH Battery &. AC/DC adapter
Operating Hours	40 hours (standard)
Tri-party communication	YES
Hands-free speaker	YES
Dimension	220L*110W*45H
Operating Temperature	-10~+50 ℃
Storage Temperature	-20~+70 ℃
Operating Humidity	<90% (Non-condensing)
Net weight	550g (including battery)

Note: ① Valid at 1550nm, CW, 23±3℃, Relative Humidity ≤70%, with an FC connector.

Ordering Information:

Standard Accessories:
Main units (unit A and unit B), FC/PC connector, Carrying bag, Manual, Battery, Headset, AC/DC Adapter/Charger, Test report.

Optional Accessories:
Clip-on Device

General Description:

The OFI-3 Optical Fiber Identifier is a low cost, portable instrument designed to detect optical signals without disrupting traffic. Based on non-destructive macrobending technology, the OFI-3 doesn't disrupt traffic, damage or overstress the fiber, enabling efficient, accurate and reliable data acquisition. During maintenance, installations, rerouting or restorations, it's often necessary to isolate a specific fiber. By simply clamping the OFI-3 onto a fiber, the OFI will indicate if there is a signal, a modulated signal, or traffic and show signal direction.

Features:

- Handheld, easy to use.
- Detect a variety of optical tones, 270Hz, 1kHz and 2kHz
- Powered by 2 units of 1.5V AA alkaline batteries
- RB0.25mm, RB0.9mm, RB2.0mm, RB3.0mm clamp available
- Transmission direction indication
- Intensity display of optical signal
- Low battery indication
- Buzz indication function

Specifications:

Recognizable Wavelength Range		900 to 1650nm	
Recognizable signal type		CW, 2kHz, 1kHz, 270Hz ±5%	
Detector Type		InGaAs 2pcs	
Clamp Type		H0.9/0.25 for bare fibers ; H2.0/3.0 for jacketed fiber	
Sensitivity	@ 1310nm	+11dB to-20 dBm (Continuous Wave) ;	+11dB to-10 dBm (Modulated Signal)
	@ 1550nm	+11dB to-30 dBm (Continuous Wave) ;	+11dB to-18 dBm (Modulated Signal)
LED Indicator		signal traffic; signal frequency(2kHz/1kHz/270Hz); signal intensity (5 grades) ; low battery	
Operating temperature		-10 to+50 ℃	
Storage temperature		-20 to+70 ℃	
Power Supply		1.5V AA batteries*2pcs	
Dimension (mm)		202L*62W*36H	
Weight (g)		270	

Note: ① Valid at 1550nm, CW,23±3℃, Relative Humidity ≤70%, with an FC connector.

Ordering Information:

Standard Accessories:
Carrying bag, Manual, Battery, Two pieces of interchangeable adapter heads (clamps) for jacketed and coated fiber, Test Report

Brief Introduction:

FHE-1 is a hand-held equipment designed for 2M bit erroe rate test,applicable to telecommunication access networks, transmission networks and the start-up, check and maintenance of optical communication systems.

Main Features:

- Hand-held structure, solid design, especially suitable for the fieldwork
- LCD display with backlight, menu operation
- Powered by and integrated with smart fast charging circuit inside.
- Data storage capacity up to 99 sets
- Test results and real-time clock could be maintained safely with a standby Ni-MH rechargeable battery
- LED alarm and status indicator
- Clock Source: internal, received
- 75 ohm and 120 ohm interfaces available

Main Features:

- Out of service test/in-service test
- Framed/unframed test
- 2Mb/s, N*64Kb/s BER test
- Timeslot voice monitoring
- Error insertion: Single &. Fixed rate
- Error bit test, time-slot test, signal analysis, protocol test
- Measurement results can be printed via external serial port printer
- PC transmision&.management software available

Technological Specifications:

Item	Description
Bit rate	2084Kb/s±50ppm
Interface	75ohm unbalanced,120ohm balanced
Input sensitivity	0~ -43dB
Circuitry code	HDB3
Frame type	Framed/unframed
Frame pattern	PCM30, PCM30CRC, PCM31, PCM31CRC
Test pattern	Random pseudocode: 2^15-1, 2^11-1 Fixed code: 1111,0000, 1010
Alarm indicator	Signal Loss, AIS, Frame Loss, MF Remote Alarm, CRC Error, Patten LOSS, Remote Alarm
Error insertion	Single error insertion Fixed rate error insertion: 10E-3, 10E-6
Serial interface	RS-232
Rechargeable batteries	6*1.2V AA Ni-MH rechargeable batteries, for 8-hour contineous test, Built-in smart fast charger, 4.5 charging hours
Power supply	AC/DC adapter, 6*1.2V Ni-MH rechargeable batteries
Dimensions	215mm*100mm*50mm(L*W*H)
Weight	700g

Ordering Information:

Standard Items	Quantity	Standard Items	Quantity
FHE-1 main unit	1pc	AC/DC Adapter/Charger	1pc
75Ω unbalance test cable	2pcs	120Ω balanced test cable	2pcs
Ni-MH rechargeable battery	6pcs	Carrying Bag	1pc
Manual	1pc	Test report	1pc
Serial cable	1pc	PC transmision &. management software	1pc

Standard Items	Quantity	Standard Items	Quantity
Cigarette lighter cable		Serial printer	

Introduction:

The 2M Transmission Analyzer TLP-3C is a multi-functional and full-featured digital transmission system test device, designed for the installation test, engineering check and acceptance, daily maintenance of digital networks, mainly performing channel test, alarm analysis, fault finding and signalling analysis. In addition, this instrument further provides various protocol converters with one-way and bi-directional bit error test function. These capabilities make it ideal for field use.

Basic Functions:

1) **2M testing**
   75Ω and 120Ω line interfaces
   HDB3 and AMI line codes
   Out-of-service 2Mb/s, N×64kb/s BER testing
   In-service framed and unframed double-channel testing
   "PCM simulator" mode testing
   Frame data control and monitoring
   Timeslot activity monitoring, FAS, N-FAS, TS16MFO analysis
   Built-in 64kb/s tone channel listen capability
   CAS and CCS signaling generation and monitoring
   Round trip delay measurement
   APS delay measurement
   Extensive error and alarm generation
   VF tone generation and measurement
   Level measurement
   Pulse mask measurement
   Jitter measurements to ITU-T standard O.172
   Frequency and offset measurement
   Clock slip measurement
   Up to ±999ppm transmit clock deviation
   Clock source: Internal, Interface or External 2M clock/signal
   Real-time transmit circuit open/short indication
2) **Datacom testing**
   Datacom (V.24, V.35, V.36, X.21, RS-449, RS-485, EIA-530 and EIA-530A) interfaces BER Testing
   ASYNC BER testing with baud rate 300b/s~38.4Kb/s
   SYNC BER testing with data rate 300b/s~8Mb/s
   DTE or DCE emulation
   SYNC clock source and sense selection
   Frequency measurement
   Handshaking signals control and monitoring
3) **G.703 CO testing**
   G.703 CO 64kb/s BER testing
   Octet timing control and monitoring
   Frequency and offset measurement
   Clock source: Internal, Interface selectable
4) **Protocol converter testing**
   2M-Datacom SYNC 64k or N×64kb/s BER testing
   2M-G.703 CO SYNC 64kb/s BER testing
   Frequency and offset measurement
   Handshaking signals monitoring
   2M frame data and alarm monitoring
5) **Other functions**
   Real-time clock
   Test pattern: PRBS, Fixed Code and 16-BIT User Word
   Error injection: Single and Fixed Rate
   Manual and auto-timer measurement
   ITU-T G.821, G.826, and M.2100 performance analysis

Main Features:

- Handheld design and easy-to-use
- Full-featured measurements to 2M, Datacom
- High resolution backlit large LCD screen, with adjustable contrast
- Smart navigation mode and multi-languages displays
- Extensive error and alarm generation, detection and indication
- Histograms analysis of alarm and error events
- Up to 99 days continuance test performance
- Save/Recall of up to 7 user-defined setups and 70 sets of results
- Up to 6 hours operation from a single battery charge
- Built-in Li rechargeable battery and smart charger circuit
- Can be charged with automobile cigarette lighter battery adapter
- Ungradable software via an integrated RS232C interface
- Test results uploaded, conserved and printed by PC Manager software

Specifications:

Item	Description		
2M	Internal Clock	2048kb/s ± 10ppm	
	Frequency Deviation	±999ppm	
	Line Interface	75Ω (Unbalanced), 120Ω (Balanced); High Input Impedance >2KW	
	Line Code	HDB3, AMI	
	Framing	Unframed, PCM30, PCM30CRC, PCM31, PCM31CRC	
	Receive Sensitivity	> -43dB	
	Tx Clock Source	Internal, Interface and External 2MHz clock or signal	
	Pulse Mask Measurement	Comply with G.703	
	Jitter Measurement	Comply with O.172	
	Frequency Measurement	Accuracy: ±1Hz	
	Offset Measurement	Accuracy: ±1ppm Range: -999ppm～+999ppm	
	VF Injection	Frequency: 200Hz～3400Hz, Step: 10Hz	
		Level: -60dBm～+3dBm	
	VF Measurement	Frequency: 200Hz～3400Hz, Accuracy: ±1Hz	
		Level range :-60.00dBm～+3.14dBm -60.00dBm～-21.00dBm, accuracy: ±2.87dBm -20.00dBm～+3.14dBm, accuracy: ±0.21dBm	
	Delay Measurement	Accuracy: ±1μs	
G.703 CO	Line Rate	64kb/s ± 100ppm	
	Line Interface	120Ω, Balanced	
	Line Code	AMI	
Datacom	Line Interfaces	V.24, V.35, V.36, X.21, RS-449, RS-485, EIA-530, EIA-530A	
	Data Rate	ASYNC	300, 600bit/s, 1.2, 2.4, 4.8, 7.2, 9.6, 19.2, 38.4kb/s
		SYNC	300, 600bit/s, 1.2, 2.4, 4.8, 7.2, 9.6, 19.2, 38.4kb/s, N×64kb/s (N=1～32),4M,8Mkb/s
Test Patterns	PRBS	2^{23}-1,2^{20}-1, 2^{15}-1, 2^{11}-1, 2^{9}-1,2^{6}-1	
	Fixed Code	1111, 0000, 1010	
	16-BIT	User Programmable Word	
LED Alarm Indicators	Signal Loss, AIS, Frame Loss, MFrame Loss, Pattern Loss, Remote Alarm, Error, Clock Slip.		
Error Injection	Type: BIT, FAS, CRC4, CODE, E-BIT		
	Single, Fixed Rate : 10^{-2}, 10^{-3}, 10^{-4}, 10^{-5}, 10^{-6}, 10^{-7}		
Performance Analysis	ITU-T G.821, G.826 and M.2100		
Display	320x240 pixel backlit monochromatic LCD		
Serial Port	RS-232C		
Rechargeable Batteries	5×1.2V AA NiMH batteries, continuous working for 6 hours		
Recharge Time	Approx. 2 hours		
AC Power Adapter	Input: 100V～240VAC, 50/60Hz Output: 12VDC/1.5A		
TestManager Pro	WIN98/ME/NT/2000/XP		
Dimensions	L×W×H 200mm × 160mm × 45mm		
Operating Temperature	0℃～50℃		
Storage Temperature	-20℃～70℃		
Humidity	5%～95% non-condensing		

Ordering Information:

Standard Accessories:

Standard Items	Unit	Qty.	Standard Items	Unit	Qty
TLP-3C 2M Transmission Analyzer	pcs.	1	Simulation software	pcs.	1
75Ω BNC/L9 E1 test cable	pcs.	2	Carrying case	pcs.	1
BNC/BNC cable	pcs.	1	User's manual	pcs.	1
RS232 serial upgrading cable	pcs.	1	Warranty card	pcs.	1
DATA converting line(36PIN to 44PIN)	pcs.	1	Certificate of conformity	pcs.	1
X.21 testing line	pcs.	1	V.35 testing line	pcs.	1
V2.4 testing line	pcs.	1	V.11 testing line	pcs.	1
			AC adapter	pcs.	1

Optional Accessorie:

120 testing line	**pcs.**	**2**	**64K testing lines**	**pcs.**	**1**

General Description:

The GD-2010B is designed to provide features which are most widely used and favored by professionals in CATV industry at the least cost. It can be used to measure accurately the Analogue channels, Digital channels efficiently and effectively with high accuracy rate. Mainly it supports C/N, level, channel power measurement, voltmeter function, spectrum analysis and so on. Overall, its functions are easy to use and can be used in a wide range of applications.

Features:

Accurate QAM testing: digital average power,MER, BER
Support multiple DVB mode: 16QAM,32QAM,64QAM,128QAM,256QAM
Single channel/Frequency simulated power levels testing.
Video and audio signal power levels testing
V/A testing. Show the frequency of video and audio,field intensity and power level difference simultaneously.
C/N testing. Slope testing,
QAM View includes BER, MER, and constellation

Applications:

- Cable modem analysis using Zero Span mode provides accurate, in-service power and C/N measurements.
- QAM View option provides complete analysis of digital TV and forward cable modem signals.
- Find ingress fast with Field View option. Cable technicians working in the field can see the reverse path at the headend.
- Full, in-service, proof-of-performance analyzer.
- Fast, sensitive spectrum analyzer.
- Digital QAM carrier demodulation includes 16,32,64, 128 and 256 QAM constellation display with zoom, average digital power level, bit error rate (BER), and 22 to 39 dB modulation error rate (MER).

Specifications:

Channel/Frequency index	
Frequency Range	5MHz~862MHz
Precision	50ppm
Resolution	10KHz
Measurement Band width	280KHz
Frequency step	50KHz, 100KHz,500KHz
Channel type	
Analog TV	TV
Digital TV	16/32/64/128/256 QAM
Frequency/Channel	SIGL
Analog power level testing	
measuring range	25dBuV ~ 120 dBuV
Precision	±1.5dB
Resolution	0.1 dB
detection method	Peak value detection
input impedance	75Ω
Digital power level testing	
measuring range	25dBuV ~ 110 dBuV
Precision	±1.5dB
Resolution	0.1 dB
detection method	average value detection
input impedance	75Ω
Voltage testing	
input range	0 ~ 80V(AC/DC)
precision	±2V
resolution	0.1V

Digital Channel	
modulation mode	comply with DVB-C/ITU J83-A
QAM mode	16/32/64/128/256QAM
Symbol Rate	1MS/S-7MS/S
Band width	set by user
MER	22-39 dB
Precision	±2dB
BER	1E-4~1E-9
Carrier-Noise ratio(C/N)	
signal input range	>70dBuV
measuring range	20dB~50dB
Precision	±2 dBuV
Resolution	0.5dB
Spectrum Analysis	
Frequency Range	5MHz~862MHz
Resolution	100kHz
Precision	50ppm
power levels range	20dBV~120dBV
power levels resolution	0.1dB
power level Precision	±1.5dB
Dynamic range	60dB
input impedance	75Ω
RBW	300KHz
testing band width	6、12、62MHz、All range scan
Slope testing	
Number of channels	5
resolution	±0.1dB
QAM testing function(Q model)	

Note: All the above-mentioned technical indexes wholly represent the indoor temperature (25℃)

General specifications:

Audio Output	Built-in speaker
Power Supply	Li-ion battery(3.7V,2000mAh),5V AC/DC Adaptor/Charger
Operating Time	Average 6~8 hours (Fully charged)
Charging Time	Less than 5 hours
Dimension	223*110*47 (mm)
Net weight	0.43Kg
Working temperature	-10℃ ~ 50℃
Storage temperature	-20℃ ~ 60℃

Standard Accessories:

Carrying Bag,AC/DC Adaptor,Battery,Software,USB Cable.

General Introduction :

ADT-10 is designed to be an ideal hand-held tool for the installation and maintenance of ADSL/ADSL2+ services. It enables engineer to verify the ADSL transmission parameters, proceed PING test, DMM test & trouble-shooting.

Features:

- Comply with various ADSL standards, could be used to test ADSL, ADSL2+ and READSL;
- Rugged design, potable,2.8 inch color LCD display;
- Programmable auto power-off function;
- User-friendly manual;
- Up to 99 results storage;
- Management software available for uploading testing results via RS232

Function :

- Verification ADSL transmission parameters (up/down actual and max. rates, attenuation, SNR margin,TX power, and etc.) ;
- Pass/fail indication and programmable thresholds ;
- Graphical bit/tone display ;
- Distance-to-short CRC,HEC,FEC,NCD,OCD bit error statistics ;
- Default 8 groups of VPI and VCI,
- Modem Emulation (Replace the user's ADSL Modem completely)
- PPPoE dial ;
- LAN Ping and WAN Ping ;
- DMM test, including line length test ;
- Uploading test results for analysis and process ;

Specifications:

ADSL Tester		
Applied Standards	ITU G.992.1(G.dmt), ITU G.992.2(G.lite), ITU G.994.1(G.hs), ANSI T1.413 issue #2 , ITU G.992.5(ADSL2+) Annex L Compatible with ADSL,ADSL2+ and READSL	
Max. Testing Distance	6.5km	
Channel Rate	Upstream Channel:0~1.2Mbps; Downstream Channel: 0~1.2Mbps	
Attenuation	0~63.5dB	
SNR Margin	0~32dB	
DMM Tester		
Voltage	VC : -110V ~110V	Accuracy : ±5%±2V
	AC : 0V ~290V	Accuracy : ±5%±2V
Loop Resistance	0 ~20KΩ	Accuracy : ±3%±2Ω
Insulation Resistance	0 ~1.0MΩ	Accuracy : ±0.1 MΩ
	1.0~50MΩ	Accuracy : ±5%±0.5 MΩ
Capacitance	0~10nF	Accuracy : ±2nF
	10~1000nF	Accuracy : ±3%±2nF
Power Supply	AC/DC adaptor ; 2000mAH Li-ion Rechargeable Battery	
Operating Temperature	-30°C +50°C	
Storage Temperature	-30°C +60°C	
Humidity	10%~95%	
Dimension	201 * 92 * 36 (mm)	
Weight	460 (g)	

Standard Accessories:

RJ45-RJ45 cable , RJ11-RJ11 cable , RJ11-crocodile cable , DMM cable , PC software , Manual , Battery , AC/DC adaptor/charger, Silicon Boot.